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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/688,277	10/17/2003	Shoji Kodama	16869B-016510US	3784

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EXAMINER

PORTKA, GARY J

ART UNIT PAPER NUMBER

2188

DATE MAILED: 03/22/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/688,277

Applicant(s)

KODAMA ET AL.

Examiner

Gary J. Portka

Art Unit

2188

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 October 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-24 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 17 October 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
- Paper No(s)/Mail Date 4 Dec 2003.

- 4) ☐ Interview Summary (PTO-413)
- Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

1. Claims 1-24 are presented for examination.

Claim Objections

2. Claims 3 and 6 are objected to because of the following informalities: In the last two lines the word "forth" should be "fourth". Appropriate correction is required.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 1-2 and 4-5 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claims 1 and 4 each recite time consistency of write operations on the first volume and the second volume. It is unclear whether this requires each volume to have internal time consistency, or if time consistency is also maintained between the volumes as well. Claims 2 and 5 incorporate this limitation by dependency.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 3, 6, 12, 18, 21, and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kazar et al., US 6,868,417 B2, in view of Black, US 6,978,324 B1.

7. As to claims 3, 6, 12, 18, 21, and 24, Kazar discloses system and method having first interface configured to receive block-level I/O requests and second interface configured for file-level I/O (see Abstract and Fig. 1). This system has a data communication path with physical storage to exchange data therewith in response to the block-level and file-level requests, each for respective storage areas of the physical storage that are logical volumes (see col. 2 lines 10-22, col. 5 lines 30-36, and col. 6 lines 9-18, "a NAS volume or a SAN volume"). The last cited section also describes the copying of each of the volumes.

Kazar does not disclose a third interface with another storage controller, or replicating the data to secondary storage via the other controller. However, Black teaches a system that uses a separate interface to copy to a separate storage, see Figs. 6 and 9. This facilitates mirroring at greater distances (see col. 17 lines 9-43), clearly a consideration for reliable fail-over. Thus it would have been obvious to one of ordinary skill in the art at the time of the invention to use a third interface with another storage controller for copying, because this was known to facilitate mirroring at greater distances.

8. Claims 7-11, 13-17, 19-20, and 22-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kazar et al., US 6,868,417 B2, in view of Black, US 6,978,324 B1, and further in view of Bachmat, US 6,272,571 B1.

9. As to claims 7, 9-10, 13-17, 19-20, and 22-23, the claimed invention is substantially taught by Kazar and Black as described above. Neither Kazar nor Black disclose a split request or command that stops the copying. However, split requests

Art Unit: 2188

were well known in the art as to stop copying a volume. Bachmat discloses a split command to stop copying from a first to a second logical volume (see col. 7 lines 17-26 and col. 8 lines 15-20). A split command ceases the copying of any volume to which it is applied, as recited. Thus it would have been obvious to one of ordinary skill in the art at the time of the invention to use a split request or command to stop copying, because this was a known means to control copying by stopping it.

10. As to claim 8, in the prior art combination described above, Bachmat teaches a re-sync request to resynchronize the storage areas (see Bachmat col. 9 lines 8-14). It would clearly be desirable to be able to re-sync, given the ability to split the volumes.

11. As to claim 11, the second interface in Kazar is used for NAS and thus may be considered a LAN to the extent recited.

12. As to claim 24, the control means in Black by which the primary and secondary nodes communicate via the RDF link may be considered the backup server as recited.

Conclusion

13. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Patent No:

6,948,012 Failover storage system with NAS and SAN interfacing.

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gary J. Portka whose telephone number is (571) 272-4211. The examiner can normally be reached on M-F 9:30 AM - 6:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mano Padmanabhan can be reached on (571) 272-4210. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Gary J Portka
Primary Examiner
Art Unit 2188

March 20, 2006



GARY PORTKA
PRIMARY EXAMINER